

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. through 3. (canceled).

4. (currently amended): A projector color correcting method comprising:
a color conversion generation step for generating a color conversion for each of the pixels
or blocks of an image projected onto a projection plane based on previously set first color
information and second color information on the image projected onto the projection plane; and
a color correction step for correcting an input image for colors on a pixel-by-pixel or
block-by-block basis using the color conversion~~The projector color correcting method according~~
~~to claim 1;~~

wherein said color conversion generation step comprises:

an association step for projecting the image onto the projection plane, and
capturing the image to acquire a captured image for establishing an association between
pixels or blocks of the image and pixels or blocks of the captured image;

a color information acquisition step for acquiring the second color information as
color information for each pixel or block of the captured image; and

a color conversion calculation step for calculating a color conversion for each
pixel or block of the image based on the first color information, the second color
information, and said association.

5. (currently amended): A projector color correcting method comprising:
a color conversion generation step for generating a color conversion for each of the pixels
or blocks of an image projected onto a projection plane based on previously set first color
information and second color information on the image projected onto the projection plane; and
a color correction step for correcting an input image for colors on a pixel-by-pixel or
block-by-block basis using the color conversion~~The projector color correcting method according~~
~~to claim 1;~~

wherein said color conversion generation step comprises:

an association step for projecting a pattern image onto the projection plane, and
capturing the pattern image to acquire a captured pattern image for establishing an
association of pixels or blocks of the pattern image with pixels or blocks of the captured
pattern image;

a color information acquisition step for projecting a color image onto the
projection plane, capturing the color image to acquire a captured color image, and
acquiring the second color information as color information for each pixel or block of the
captured color image; and

a color conversion calculation step for calculating a color conversion for each
pixel or block of the color image based on the first color information, the second color
information, and said association.

6. (original): The projector color correcting method according to claim 4, including presenting a plurality of the images or the pattern images, acquiring an associated captured image as a captured image associated with the plurality of images, and scanning the associated captured image to establish an association of the pixel or block of the image or pattern image with the pixels or blocks of the captured image or captured pattern image.

7. (currently amended): A projector color correcting method comprising:
a color conversion generation step for generating a color conversion for each of the pixels
or blocks of an image projected onto a projection plane based on previously set first color
information and second color information on the image projected onto the projection plane; and
a color correction step for correcting an input image for colors on a pixel-by-pixel or
block-by-block basis using the color conversion~~The projector color correcting method according~~
~~to claim 1;~~

wherein said color conversion generation step comprises:

a feature point association step for projecting a pattern image onto the projection plane, capturing the pattern image to acquire a captured pattern image for establishing an association of feature points of the pattern image with feature points of the captured pattern image;

a feature point color information acquisition step for projecting a color image onto the projection plane, capturing the color image to acquire a captured color image, and acquiring the second color information as color information on the feature points of the captured color image;

a feature point color conversion calculation step for calculating a color conversion for the feature points of the color image from the previously set first color information, the second color information, and said association; and

a color conversion calculation step for calculating a color conversion for each pixel or block of the input image by using the color conversion for the feature points as a color conversion for representative points.

8. through 10. (canceled).

11. (currently amended): A projector color correcting apparatus comprising:
a color conversion generation unit for generating a color conversion for each of pixels or blocks of an image projected onto a projection plane based on previously set first color information and second color information on the image projected onto the projection plane; and
a color correction unit for correcting an input image for colors on a pixel-by-pixel or block-by-block basis using the color conversion~~The projector color correcting apparatus~~
according to claim 9;

wherein said color conversion generation unit comprises:

an association unit for acquiring a captured image generated by capturing the image projected onto the projection plane to establish an association between pixels or blocks of the image and pixels or blocks of the captured image;

an association storage memory for recording the association;

a color information acquisition unit for acquiring the second color information as color information for each pixel or block of the captured image;

a color conversion calculation unit for calculating a color conversion for each pixel or block of the image based on the first color information, the second color information, and said association; and

a color conversion storage memory for recording the color conversion.

12. (currently amended): A projector color correcting apparatus comprising:
a color conversion generation unit for generating a color conversion for each of pixels or blocks of an image projected onto a projection plane based on previously set first color information and second color information on the image projected onto the projection plane; and
a color correction unit for correcting an input image for colors on a pixel-by-pixel or block-by-block basis using the color conversion~~The projector color correcting apparatus~~
~~according to claim 9;~~

wherein said color conversion generation unit comprises;

an association unit for acquiring a captured pattern image generated by capturing a pattern image projected onto the projection plane to establish an association of pixels or blocks of the pattern image with pixels or blocks of the captured pattern image;

an association storage memory for recording the association;

a color information acquisition unit for capturing a captured color image generated by capturing a color image projected onto the projection plane to acquire the

second color information as color information for each pixel or block of the captured color image;

a color conversion calculation unit for calculating a color conversion for each pixel or block of the color image based on the first color information, the second color information, and said association; and

a color conversion storage memory for recording the color conversion.

13. (original): The projector color correcting apparatus according to claim 11, wherein said association unit presents a plurality of the images or pattern images, acquires an associated captured image as a captured image associated with the plurality of images, and scans the associated captured image to establish an association of the pixel or block of the image or pattern image with the pixels or blocks of the captured image or captured pattern image.

14. (currently amended): A projector color correcting apparatus comprising:
a color conversion generation unit for generating a color conversion for each of pixels or blocks of an image projected onto a projection plane based on previously set first color information and second color information on the image projected onto the projection plane; and
a color correction unit for correcting an input image for colors on a pixel-by-pixel or block-by-block basis using the color conversion
~~The projector color correcting apparatus according to claim 9;~~

wherein said color conversion generation unit comprises:

a feature point association unit for capturing a captured pattern image generated by capturing a pattern image projected onto the projection plane, and establishing an association of feature points of the pattern image with feature points of the captured pattern image;

an association storage memory for recording said association;

a feature point color information acquisition unit for acquiring a captured color image generated by capturing a color image projected onto the projection plane, and acquiring the second color information as color information on the feature points of the captured color image;

a feature point color conversion calculation unit for calculating a color conversion for the feature points of the color image from the previously set first color information, the second color information, and said association;

a color conversion storage memory for recording the color conversion for the feature points as a color conversion for representative points; and

a color conversion calculation unit for calculating a color conversion for each pixel or block of the input image from a color conversion for the representative points.

15. through 19. (canceled).

20. (currently amended): A computer readable storage medium storing a computer program for causing a computer to execute a projector color correcting method, said method comprising:

a color conversion generation step for generating a color conversion for each pixel or block of an image projected onto a projection plane based on previously set first color information and second color information of the image projected onto the projection plane; and
a color correction step for correcting the input image for colors on a pixel-by-pixel or block-by-block basis using the color conversion~~The program according to claim 10;~~

wherein said color conversion generation step comprises:

an input step for receiving input through a user interface;
a conversion step for converting the color conversion based on the input;
a color information acquisition step for acquiring the second color information as color information for each pixel or block of the image on the projection plane;
a color conversion calculation step for calculating a color conversion for each pixel or block of the image based on the first color information and the second color information;

an association step for projecting the image onto the projection plane, and capturing the image to acquire a captured image for establishing an association between pixels or blocks of the image and pixels or blocks of the captured image;

a color information acquisition step for acquiring the second color information as color information for each pixel or block of the captured image; and

a color conversion calculation step for calculating a color conversion for each pixel or block of the image based on the first color information, the second color information, and said association.

21. (currently amended): The ~~program-computer readable storage medium~~ according to claim 20, wherein said color conversion generation step comprises:

an association step for projecting a pattern image onto the projection plane, and capturing the pattern image to acquire a captured pattern image for establishing an association of pixels or blocks of the pattern image with pixels or blocks of the captured pattern image;

a color information acquisition step for projecting a color image onto the projection plane, capturing the color image to acquire a captured color image, and acquiring the second color information as color information for each pixel or block of the captured color image; and

a color conversion calculation step for calculating a color conversion for each pixel or block of the color image based on the first color information, the second color information, and said association.

22. (currently amended): The ~~program-computer readable storage medium~~ according to claim 20, wherein said method further comprises including presenting a plurality of the images or the pattern images, acquiring an associated captured image as a captured image associated with the plurality of images, and scanning the associated captured image to establish an association of the pixel or block of the image or pattern image with the pixels or blocks of the captured image or captured pattern image.

23. (currently amended): The ~~program-computer readable storage medium~~ according to claim 22, wherein said color conversion generation step comprises:

a feature point association step for projecting a pattern image onto the projection plane, capturing the pattern image to acquire a captured pattern image for establishing an association of feature points of the pattern image with feature points of the captured pattern image;

a feature point color information acquisition step for projecting a color image onto the projection plane, capturing the color image to acquire a captured color image, and acquiring the second color information as color information on the feature points of the captured color image;

a feature point color conversion calculation step for calculating a color conversion for the feature points of the color image from the previously set first color information, the second color information, and said association; and

a color conversion calculation step for calculating a color conversion for each pixel or block of the input image by using the color conversion for the feature points as a color conversion for representative points.

24. (canceled).